

REMARKS

Claims 2-33 are pending for further examination.

In the Office action, the claims were rejected as follows:

(1) Claims 1, 10-11 and 19-32 were rejected under 35 U.S.C. §102 as anticipated by U.S. Patent No. 6,459,806 (Rateman).

(2) Claim 12 was rejected under 35 U.S.C. §103 as unpatentable over the Rateman patent.

(3) Claims 2-7 and 14-17 were rejected under 35 U.S.C. §103 as unpatentable over the Rateman patent in view of an IEEE article by Wolberg.

(4) Claim 8 was rejected under 35 U.S.C. §103 as unpatentable over the Rateman patent in view of the IEEE Wolberg article and further in view of U.S. Patent No. 5,479,570 (Imagawa et al.).

(5) Claims 9, 13 and 18 were rejected under 35 U.S.C. §103 as unpatentable over the Rateman patent in view of the Wolberg IEEE article and further in view of an IEEE article by Dodgson.

Claim 2 has been rewritten in independent form to include the features of claim1 (now canceled). Other claims have been amended to change their dependency.

As recited in claim 2, a method of testing a currency item includes deriving a plurality of measurements of the currency item at a resolution (R) and processing the measurements to derive values at a different resolution. The resolution is reduced in the spectral domain. The method includes filtering a signal of the measured values in the spectral domain to reduce the resolution in the spectral domain by taking a subset of the set of spectral components.

In some implementations, an accurate representation of a currency item can be derived with less data so that testing of the currency item (for example, for determination of authenticity and also classification – type of currency item, denomination) can be carried out with less processing, as well as greater efficiency and speed at lower cost.

The Raterman patent discloses optically scanning a bill. A photodetector produces a continuous output signal which is proportional to the intensity of the light reflected from the illuminated strip on the bill at any given moment. The output is sampled at intervals controlled by an encoder (col. 7, lines 35-47).

The Office action (at page 6) acknowledges that the Raterman patent does not disclose reducing the resolution in the spectral domain as recited in claim 2. The Office action, however, relies on the Wolberg article for those features.

The Wolberg article relates to image resampling, which is the process of transforming a sampled image from one coordinate system to another (*see* first paragraph of section 5.1). This involves reconstruction (interpolation) followed by sampling (*see* third paragraph of section 5.1).

In contrast to claim 2, the Wolberg article does not mention filtering in the spectral domain, in particular, by taking a subset of the set of spectral components. The Office action alleges that Figs. 5.1, 5.2 and 5.3 show the claimed features. That is incorrect. Fig. 5.2 shows magnification, (*i.e.*, interpolation) and minification, which involves discarding points (*see* the text on page 118). This is not filtering in the spectral domain. Fig. 5.1 is entirely in the spatial domain and does not show the frequency domain. Fig. 5.3 shows transformation of digital samples to an analog signal, processing of the analog signal, followed by re-sampling – none of this is in the frequency domain.

Furthermore, applicant submits that there would have been no reason to combine the disclosure of the Wolberg article with that of the Raterman patent. Whereas the Raterman relates to testing items of currency, the Wolberg article does not. Instead, the Wolberg article relates to “image resampling,” which is very different from the subject matter of the Raterman patent as well as the pending application.

Moreover, applicant fails to see how the sentence from the Wolberg article quoted by the Office action (at page 7) regarding claim 2 is relevant to Raterman or the present invention or how it somehow would render the claimed subject matter obvious. Therefore, even if the Wolberg article did mention filtering in the spectral domain, there would have been no reason to combine that disclosure with the Raterman patent so as to obtain the claimed subject matter.

The other references cited against the claims do not disclose the features missing from the Raterman patent and the Wolberg article. Indeed, the Dodgson article, like the Wolberg article, relates to “image” resampling, which is used in “image manipulation tasks including image scaling, image registration, image warping, and photo-mosaicing” (page 1322). None of these processes have anything to do with discrimination of currency items.

The dependent claims recite additional features that render those claims independently patentable. For example, the cited references do not disclose that the selected subset in the frequency domain has a predetermined size (claim 3), and do not disclose formation of a feature vector (claim 7).

At least for the foregoing reasons, applicant respectfully requests reconsideration and withdrawal of the rejections.

Conclusion

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

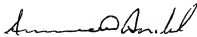
Payment for the additional claims and for the Petition for Extension of Time fee are being paid electronically via the EFS system. Please apply any other charges or credits to deposit account 06-1050.

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Respectfully submitted,

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